# CIAP-Project Nominee Fact Sheet

**Project Title**: East Timbalier Island Restoration

**Entity/Individual nominating the project**: Maritech Resources, Inc.


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**Total CIAP Funds Requested:** **$23,017,800**
**Requested State Fund:** **$23,017,800**
**Parish Allocation:** **$ 0**

**Infrastructure Funds Proposed: $ 23,017,800 (100% Offshore Infrastructure)**

**Description and Location of the Project:** The project is located in Lafourche Parish, Louisiana on East Timbalier Island. The island is part of a barrier island chain that separates Terrebonne and Timbalier Bays from the Gulf of Mexico. Prior to the TE-30 Project (proposed in 1994), "East Timbalier Island Sediment Restoration", the remnants of the island were expected to disintegrate within 11 years - losing an average of 70 feet/yr. The island experienced one of the highest gulf coast erosion rates in Louisiana in the last century. As a barrier island, East Timbalier not only protects Louisiana's coast from hurricanes and storm surges but also lessens the erosive forces of high wave action from the Gulf of Mexico.

Hurricane Katrina/Rita impacted and eroded the eastern part of the Timbalier Island. It is necessary to restore the island to insure protection of interior marshes and human habitat from hurricanes force winds, storm surges, and erosion. Oil and gas facilities and associated infrastructure, which exist on the island, are now exposed to the Gulf.

The proposed project features are

- Rocks will be salvaged from existing rock dikes along the southern boundary of the island. These salvaged rocks will be reshaped into segmented breakwaters in the eastern end of the project area.
- Hydraulically dredged sand will be deposited behind the segmented breakwaters to create supratidal features (+2 feet to +5 ft).
- Bay Intertidal Marsh Platform (0 ft to +2 ft) will be created on the bay side down slope.
- Vegetative planting will be carried out for barrier island and marsh platform habitat.
- Fences will be constructed along the island to promote dune formation and stabilization

The goal is to repair, reestablish, and reinforce the historic barrier separating the bay from the gulf, thereby adding protection to interior areas.

The preliminary project benefits are

- Barrier shoreline restoration
- Barrier island habitat restoration
- Marsh habitat restoration
- Marsh nourishment

**Project Type**: Conservation, restoration and protection of coastal area, including wetland.

**Project Justification**:
Coast 2050 Strategies:
Coastwide: Region 3 - Beneficial use of dredged material; Dedicated dredging; Maintenance of Bay and Lake Shoreline Integrity; Vegetative Planting
Regional Strategy: #12 (Protect Bay/Lake Shorelines) Restore/maintain barrier headlands, islands, and shorelines.
Mapping Unit Strategy: # 17 and 18 (Timbalier Island Shore Lines) Protect Bay/Gulf Shorelines; Beneficial use of dredged material (Fill abandoned Canals)

## ADDITIONAL PROJECT INFORMATION:

Louisiana's barrier shorelines are the fastest eroding shorelines in the nation. In paces, the erosion of Louisiana barrier islands exceeds 20 m/yr (65 ft/yr) compared to average East Coast erosion rates of 0.6 to 0.9 m/yr (2 to 3 ft/yr). Barrier shorelines provide the first line of defense for interior delta plain against winter storms and hurricanes. As barrier shorelines retreat, the critically important natural and human resources lying landward are at an increasing risk of destruction and loss. Current solutions to these coastal-erosion problems include beach nourishment and barrier island restoration.

However, the success of these initiatives typically requires large volumes of texturally appropriate sediment and consequently is feasible only if sand supply is sufficient and environmental impacts of removing this sediment is minimal. Within the generally fine grained shallow stratigraphy of the Mississippi River delta region, finding volumetrically significant quantities of sand-rich sediment presents a considerable obstacle to the success of restoration initiative.

**PROJECT AREA**:

East Timbalier Island is located along the south-central Louisiana coastline directly west of the bayou Lafourche headland, approximately 62 miles west of the Mississippi River Balize delta complex.

East Timbalier Island is an example of a stage 1 environment in the Penland and Boyd (1981) transgressive depositional model. Currently, sediment supply to the barrier system is primarily from the Bayou Lafourche headland located to the east. Bayou Lafourche was previously a former major distributary of the Mississippi River. However, in 1904 bayou Lafourche was closed off from the main river by a dam. Consequently Bayou Lafourche ceased to be a source of supply to this section of the coast except for erosional and reworking processes of the earlier formed, Lafourche deltaic headland.

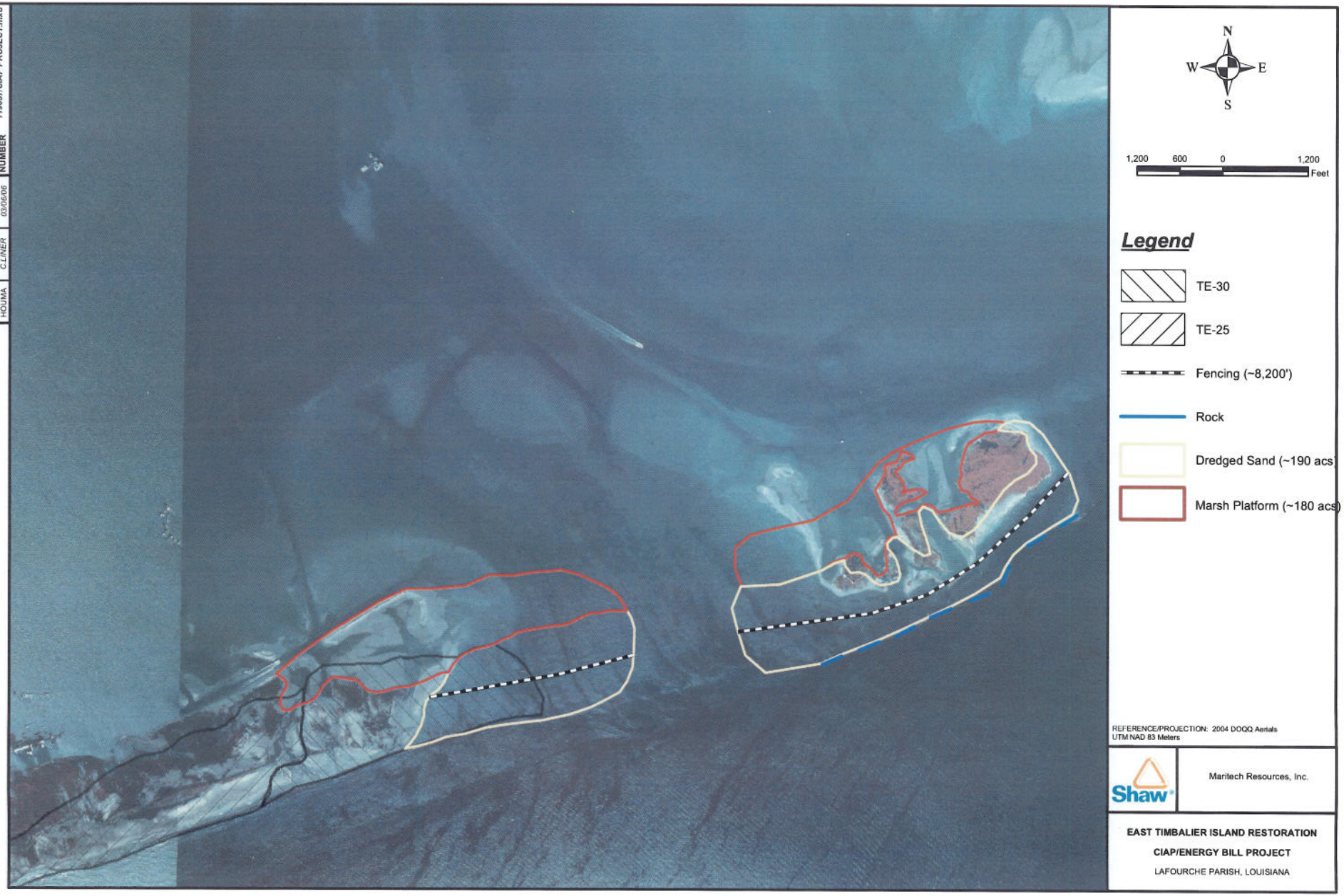
**ENGINEERING FEASIBILITY:**

A continuous island restoration, filling in the open water area between the east and west East Timbalier Island, is not feasible from engineering point of view. The existing 4,500 feet gap is entirely open water. Presently, this gap is operating as a natural pass allowing strong tide currents to flow across the breached area. This tidal current will have to be regulated to effectively place hydraulic dredged material to achieve island restoration. The location of the final section of the closure of the open water gap will be determined after detailed engineering analysis. The environmental processes will also be analyzed and appropriate techniques will be employed. There is an oil field located on the east of East Timbalier Island that has a myriad of underground flow lines, gasolines, and well heads.

**SAND SOURCE:**

Coarse grained sediments will be utilized in the hydraulic fill operation so that no structural containment will be required. The only known sediment source locations within 6 miles of the project site are the three borrow pit areas identified in the previous East Timbalier Island Restoration Projects (TE-25/TE-30). Additional higher quality sand sources were identified offshore from pipeline company surveys. However these were located approximately 20 miles from the project site. Five sandy to sand-rich sites have been identified in close proximity to East Timbalier Island in a study conducted by USGS and University of New Orleans.

**Project Cost Share**: **State = 100 %**
**Parish = 0 %**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Maritech Resources, Inc.
EAST TIMBALIER ISLAND RESTORATION
CIAP/ENERGY BILL PROJECT
LAFOURCHE PARISH, LOUISIANA